

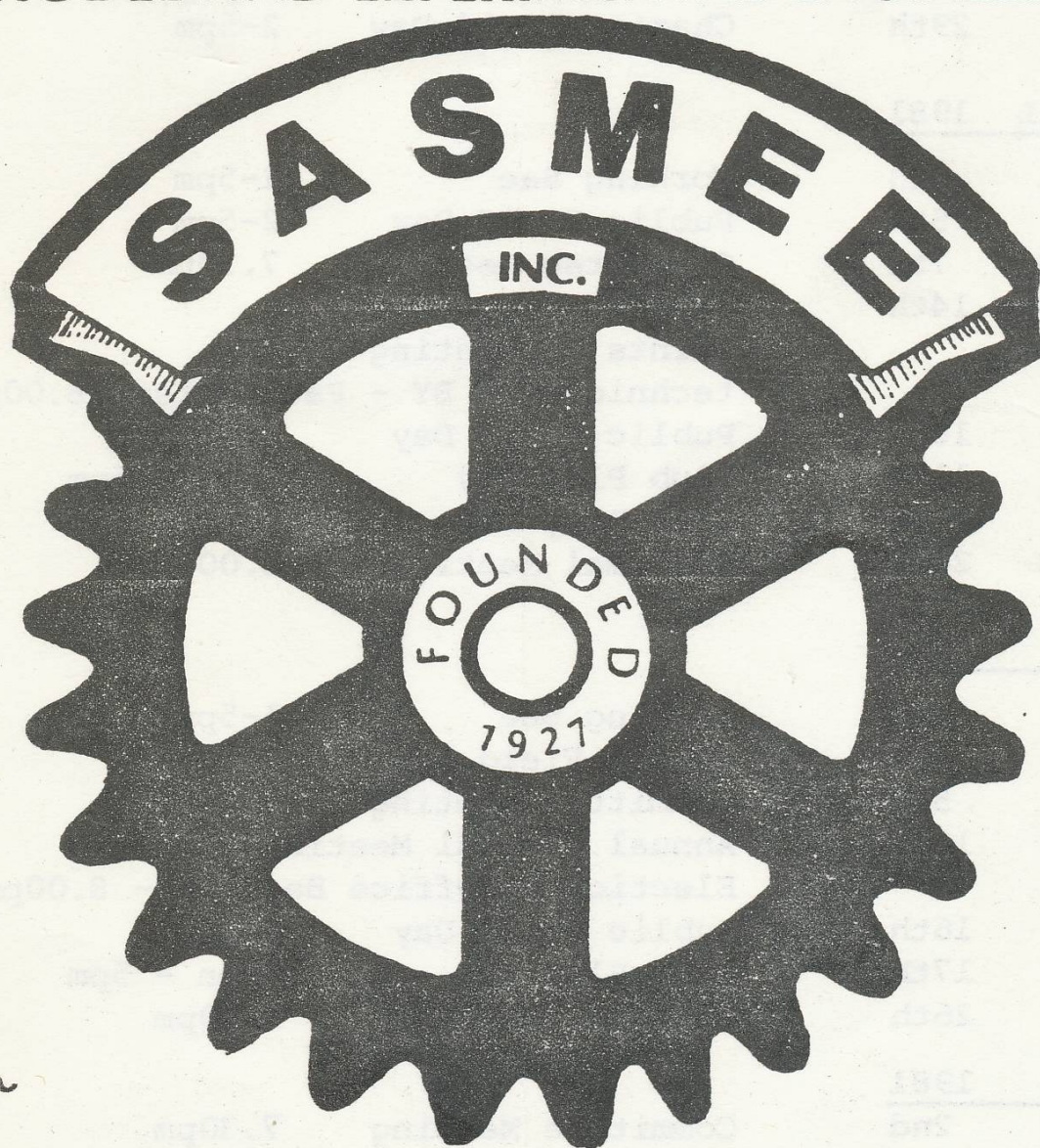
SOUTH AUSTRALIAN SOCIETY OF MODEL
& EXPERIMENTAL ENGINEERS

SASMEE

BULLETIN

THE OFFICIAL JOURNAL
OF

THE SOUTH AUSTRALIAN SOCIETY OF
MODEL AND EXPERIMENTAL ENGINEERS



April — June 81

Isbn - 0158 - 3700

WHAT'S ON AT SASMEE

MARCH 1981.

SUN.	1st	Public Field Day	2-5pm
TUES	3rd	Committee Meeting	7.30pm
SAT	7th	Working Bee	1-5pm
TUES	10th	General Meeting "Welding without Fluxes"	8.00pm
SUN	15th	Club Play Day	Noon - 5pm
SAT	21st	Public Field Day	2-5pm
TUES	24th	Informal Meeting	8.00pm
SUN	29th	Charity Field Day	2-5pm

APRIL 1981.

SAT	4th	Working Bee	1-5pm
SUN	5th	Public Field Day	2-5pm
TUES	7th	Committee Meeting	7.30pm
TUES	14th	General Meeting paints & painting techniques - BY - Paul Gristi	8.00pm
SAT	18th	Public Field Day	2-5pm
SUN	19th	Club Play Day	Noon - 5pm
MON	20th	Club Play Day	Noon - 5pm
TUES	28th	Informal Meeting	8.00pm

MAY 1981.

SAT	2nd	Working Bee	1-5pm
SUN	3rd	Public Field Day	2-5pm
TUES	5th	Committee Meeting	7.30pm
TUES	12th	Annual General Meeting Election of Office Bearers -	8.00pm
SAT	16th	Public Field Day	2-5pm
SUN	17th	Club Play Day	Noon - 5pm
TUES	26th	Informal Meeting	8.00pm

JUNE 1981

TUES	2nd	Committee Meeting	7.30pm
SAT	6th	Working Bee	1-5pm
SUN	7th	Public Field Day	2-5pm
TUES	9th	General Meeting	8.00pm
SAT	20th	Public Field Day	2-5pm
TUES	23rd	Informal Meeting	8.00pm

The President Reports

The ground track work is progressing steadily. The concrete bed for the northern curve has been poured and the access for motor vehicles will be finished shortly. Most of the outer rail, with cross ties attached, has been laid down and the remaining two rails will be welded in situ. All these sections of rail have been pre-formed to 65' radius with the aid of a special rolling machine made by Howard Bateup. Pre-forming the curves will ensure that each section will be virtually free of locked-up stresses once the welding is completed.

The wooden trestle bridge has now been fitted with a safety handrail which was kindly donated to SASMEE by the family of the late Fred Hercus. The railing was originally part of a viaduct on Fred's private track at Stirling.

Erection of the rolling-stock shed at the northern end of the tennis courts is now complete due to the efforts of members, who have also painted the shed green. Our thanks again to Vin Angley, who kindly donated the shed to SASMEE.

Work at the Club grounds is now progressing towards the access roadway. It will be necessary to divert the main water pipe, the water feed pipe to the boiler house, and the electric cable to the tunnel lights, to make way for the ground track roadbed.

It is intended to renew the section of water main from the Clubhouse to the pond, because of poor water pressure experienced over the last year or so. This pressure drop is more noticeable at the northern end of the grounds. In the long term it may be necessary to renew the entire water main back to the meter at Millswood Crescent.

Attendances at the two playdays were poor, but I guess no one could be blamed for not wanting to come out in the stinking hot weather we've had. However, there was a good roll-up of locos at the January general meeting which was an open play-night.

The canteen now boasts of a wide variety of ice-creams, soft drinks and goodies, due to the enterprise of Angus Templeman, our Public Officer, who has put a lot of time into making the Canteen a viable part of the Society's fund raising. Angus has been ably assisted by members of his family, and Fred Gordon, as well as some club members who have honoured their rostered turn for canteen duty. Unfortunately many members have failed to turn up when they have been rostered. This doesn't help those left with the chores. Please remember that your name will probably only show up about once every two years on the canteen roster, which is not asking too much from any one. The Secretary will be phoning those due for duty as a reminder, so please help out when your turn comes.

Some time ago I asked if someone would volunteer to act as an assistant to Angus Templeman, in arranging for the ordering and delivery of Canteen stocks. If any member can help out, please contact Angus, the secretary Peter Denholm, or myself.

There are always jobs to be done around the grounds, apart from the ground track project. We would like a few members to help out with the painting of the Club House and Workshop. Paint, turps and wire brushes are available, but if anyone can bring along a brush and some sort of paint pot, this would be a help.

In conclusion, please remember when you are driving round the track, running a boat, or enjoying any of the other SASMEE amenities, that all the fine amenities we already have and those we will have in the near future, are the results of the efforts of fellow club members. Therefore, I would ask you all to give an hour or two occasionally to help out with the chores.

Ian Clark - President

Reminiscences

Two jobs from my apprentice days remain fixed in my memory. Both were connected with repair work on ships.

The first was a broken shaft about 12" diam. The blacksmith who repaired the shaft, did so by welding a new piece to the broken shaft in a normal forge fire. He first scarfed each piece of shaft and set them out on the floor of the smithy to a trammel, which fitted into centre pops. He then built a brick canopy on the forge with two twyers, one at each end of the canopy. A double fire was used to heat the job and when welding heat was reached, the ends were swung on to the anvil. Five strikers were used and the weld was completed after three heats. The completed job was left on the anvil and turned every ten minutes to control cooling and prevent bending of the shaft. The next day the length was checked with the trammel and was within 1/64" and when swung in the lathe the shaft was true.

These craftsmen and the blacksmith would make up a small hot fire, get a leaf of an old spring, and forge a pair of pincers, tin snips or lawn shears while one watched them. I was a boy at the time and very impressed with the skill of these old craftsmen.

The second job was the fitting of a new uptake for the donkey boiler at the ship "S.S. Grace Darling". This happened in 1924, the year when the ship "The City of Singapore" caught fire and blew up in Tragedy Dock at Port Adelaide.

The boilermaker cut a hole in the deck to get the old uptake out and the new one in. The new uptake was made from ½" plate and about 8' long. It was a tight fit in the hole at the top of the boiler and a draw bolt was used to pull it in. My job was to hold a carbide light to show the boilermaker the movement as the uptake was drawn in, and I sat on the top galoway tube in the furnace.

The uptake suddenly slipped and caught the boilermaker's arm against the crown, severing it. I dropped the lamp, which went out. The fitter on the job got up the ladder quickly and, putting his head and shoulders through the man-hole opening, levered the uptake off the screaming man. A rope was put around the victim and he was lowered to the floor, carried through the engine room to the saloon and a doctor was called.

When the commotion had died down, the fitter tried to shift the uptake with the same podger spanner that he used before but couldn't move it. This was a frightening experience for me, but it showed me that super strength may be gained during a crisis.

Looking back on those days, there was a lot of hard work under very hard bosses, but I learnt my trade thoroughly, and I am now glad that I was taught by these men.

LITTLE JOE HENDRY.

Square Holes

The usual method used by the amateur to cut square or rectangular holes, is to force a drift through a pre-drilled hole or use a file. Broaching, using an arbor press, is usually outside the resources available to the model engineer, and simpler methods have to be adopted.

I shall assume that a good clean-cut hole is required and that it is to be accurately located in the job. Conditions influence the method used and I propose to discuss two ways, each determined by a characteristic position in the workpiece.

Case 1 :- Square or rectangular hole cut across the end of the bar.

Begin by mounting a suitable slotting cutter on a mandrel between centres or on a stub arbor in the chuck. Set up the job on the vertical slide and machine the slot as in Fig 1a. Next mount a slitting saw, about 0.050 thick on an arbor in the chuck, and rotate the base of the vertical slide through a small angle, suitable for under-cutting one side of the dovetail in the open slot as in Fig 1b.

Before cutting the second undercut in the other side of the slot, devise an approximate method of rotating the vertical slide in the opposite direction by the same angle. Exact symmetry is not important.

File up or machine an insert, as shown completed in Fig 1c, but longer than necessary so that fillets will be formed on each side after silver soldering. When the surplus length has been turned away, a perfect square cornered hole will result, suited to house ground tool bits, free from chatter, rock or movement.

The dovetailed and silver soldered insert is very secure, and hole may safely be drilled and tapped for an Allen screw.

A similar method has been described in the ME many times, mainly by LBSC, but the plain silver soldered end would not be as secure as the dove-tailed insert.

CASE 2 :- Square or rectangular hole cut in any position along the bar.

Mount the bar in the vertical slide exactly and square across the lathe bed. Adjust the bar so that the centre line of the bar is precisely at lathe centre height.

According to the length of slot required, drill and ream two holes as in Fig. 2a. These holes must have a diam. 20-22% larger than the width of the slot to provide run-out for the slot drill and also to ensure that the plugs, which will later fill these holes, remain at well over half their original cross-sectional area.

Next drill holes as in Fig. 2b, $1/32$ " less in diam. than the width of the slot. Using a slot drill, machine the slot to the finished size as in Fig 2c.

Prepare the plugs by milling flats such that the width of the flat is the same as the width of the slot. The length of the plug should be greater than the diam. of the bar. Insert the plugs in the holes, making sure that the opposing flats are located square with the axis of the slot, as in Fig. 2d. Solder using silver or soft solder, and clean up the excess material. The slot will be as Fig. 2e, and the plugs will not be noticeable.

To determine the centre distances of the holes in Fig. 2a, and prepare the plugs for these holes is an exercise that entails some calculations using one of the three equations following and referring to Fig. 3 for the characters.

The equations are :-

$$(1) \quad C = 2\sqrt{H(2R-H)}$$

$$(2) \quad H = \frac{1}{2}\sqrt{4R^2 - C^2}$$

$$(3) \quad R = \frac{C^2 + 4H^2}{8H}$$

For example :- Assume the slot to be 5/16" wide. Since it is not possible to measure directly the chordal length C on a piece of rod with precision, we need to know the dimension "m", that will give a chord of 5/16".

In the second equation R is the radius of the reamed holes and C is the width of the slot. Hence by calculating H and subtracting this from the plug diam., the required dimension "m" can be obtained.

In the example assumed, we have 5/16" plus 20% or 3/8" for the plug diam. and therefore :-

$$H = 0.1875 - \frac{1}{2}\sqrt{4(0.1875)^2 - 0.3125^2}$$

$$= 0.084$$

$$\text{thus } m = 0.375 - 0.084$$

$$= 0.291$$

If the length of the slot is to be "1", the centre distance of the reamed holes will be $1 + 2(R-H)$, or $1 + 2(0.1875 - 0.084)$

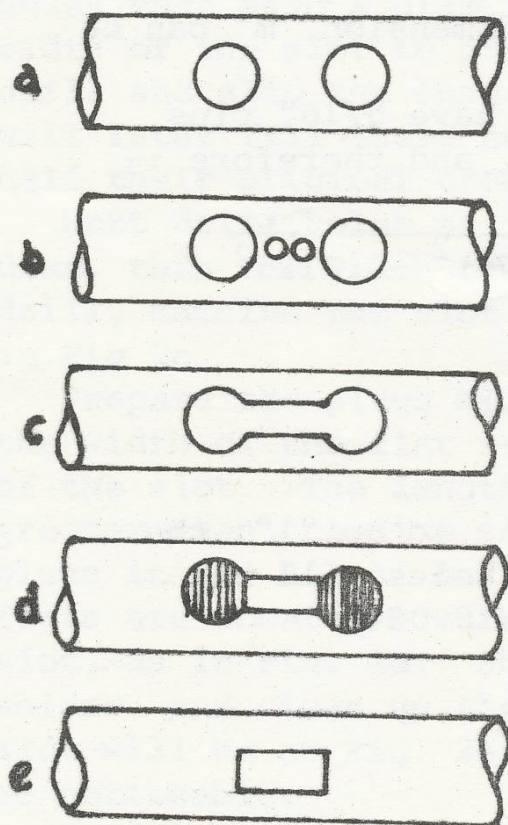
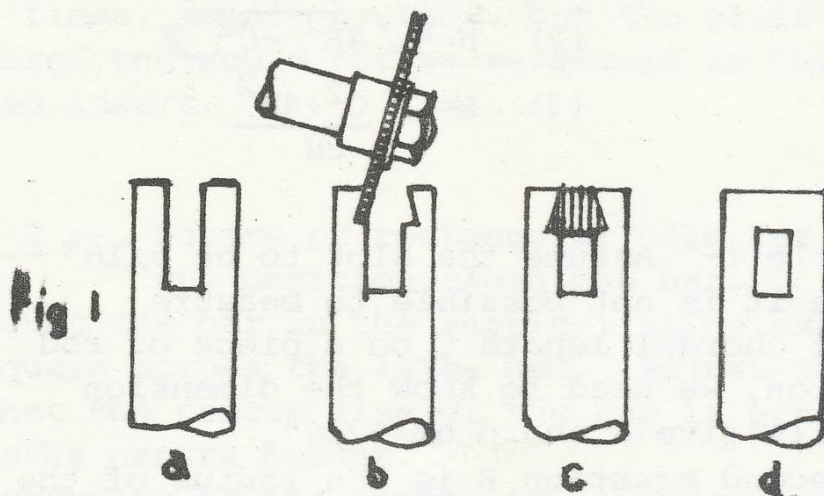


Fig 2

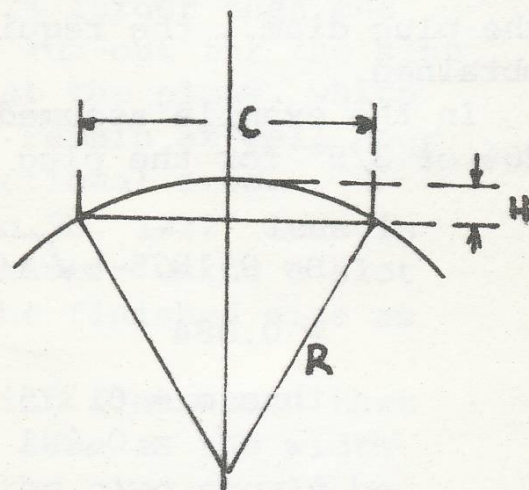


Fig 3



Gossip

Member Margaret Francis has become engaged to Anthony Conley, and the wedding will take place in April 1982. Congratulations are offered to Margaret, and Anthony.

Mark Lethbridge has matriculated with distinctions. He is to be congratulated on his pass and best wishes are extended to him in his pursuit of tertiary studies.

The Foundry Sub-Committee is now ready for action. If any member has a query about the questionnaire please contact the secretary.

Jack Mell has been deported again. He leaves for the U.K. on Sunday 8th March for a 3 month holiday and will be returning early in June. That is if the Emigration Department allow him back into the country.

Brian Niesche invited members of the committee to the first steaming of his Foden Wagon on 22nd February at his house at Belair. The steaming, after a few hitches, was successful and will be repeated on the 22nd of March.

For Sale etc.

FOR SALE

0-4-2 Sugar Cane Loco (Perry) 5"G built to 2" scale. Length 52" Width 17½" Height 24" Boiler 7½" O.D. Briggs Type. Approximately 65% comp. Boiler barrel cut and all holes drilled, crown stays complete, other plates cut to shape, weld preparation 50%.

Complete set of drawings. Photos of loco can be seen by contacting Bob Smyth or Peter Denholm

\$650. For further information contact
Des Allen, 61 Edinburgh Terrace,
Port Augusta 5700 Phone 086-42-3984

Pair of cylinder blocks for 7½" G "Highlander"
\$65. Contact Des Allen.

7¼" G "Chloe" 2½" Scale Plantation Loco
Complete set of drawings plus catalogue - \$40.
Contact Des Allen.

"0" Gauge Train Set

- 24 lengths of curved track
- 24 " " straight track,
- 1 Diamond crossing,
- 2 Bogie cattle vans,
- 1 " box car,
- 1 Four wheel caboose,
- 2 " " box cars,
- 1 Open truck
- 1 0-4-0 Shunter

\$100 O.N.O.

This equipment is brand new and has never been used. Contact Des Allen.

EXCHANGE

Complete unbound volumes of Model Engineer (112,113). Will swap for any two of the following (97-101) or (121-123).

Contact Des Allen

FOR SALE

2 Channel Radio Control unit with NiCad batteries and charger 29 mHz.

Steam engine marine $\frac{1}{2}$ " x $\frac{1}{2}$ "

Contact Charlie Manning
Phone 356 5896

REQUIRED

Clean rags, scrap metal, and 12 gall drums for foundry project. Please place in the Steam House.

Rosters

CANTEEN ROSTER

SUN	1st	MAR.	Gavin Thrum, Graham Todd
SAT	21st	MAR	Vic Thrum, Bill West
SUN	5th	APR	Geoff Williams, Taffy Williams
SAT	18th	APR	Don Zanker, Ronald Bennetts
SUN	3rd	MAY	Malcolm Ambler, Taffy Beal
SAT	16th	MAY	Mike Bradford, Roy Duncan
SUN	7th	JUNE	John Irvine, Peter Cockburn
SAT	20th	JUNE	Allan Faunt, Margaret Francis
SUN	5th	JULY	Steven Maher, Alf Boyley
SAT	18th	JULY	Andrew Christopherson, Bill Coles

LOCO ROSTER

<u>SUN. MAR. 1st</u>	<u>SAT. MAR. 21st</u>	Charity Day <u>SUN. MAR. 29th</u>
I. Clark	B. Smith	J. Barkes
P. Waugh	J. Moorfield	F. Gordon
F. Lee	K. Besley	B. Dunstan
	B. Francis	F. Lee
<u>SUN. APRIL 5th</u>	<u>SAT. APRIL 18th</u>	<u>SUN. MAY 3rd</u>
B. Dunstan	K. Besley	I. Clark
F. Lee	J. Beal	F. Lee
I. Clark	F. Gordon	P. Waugh
P. Waugh	H. Bateup	J. Moorfield
<u>SAT. MAY 16th</u>	<u>SUN JUNE 7th</u>	<u>SAT. JUNE 20th</u>
K. Besley	H. Bateup	B. Francis
R. Skewes	I. Clark	F. Lee
B. Francis	P. Waugh	K. Besley
A. Letherbridge	F. Gordon	B. Smith

BOILER ROSTER

SUN	15th	MAR.	Alan Brabham
SAT	21st	MAR.	Howard Bateup
SUN	29th	MAR.	Tom Fowler
SUN	5th	APRIL	Bryan Homann
SAT	18th	APRIL	Terry Middleton
SUN	3rd	MAY	Bob Scanlon
SAT	16th	MAY	Joe Hendry
SUN	7th	JUNE	Colin Cook
SAT	20th	JUNE	Alan Brabham

LOCK UP

			<u>Informal Meeting</u>
TUES	24th	MAR	Ian Clark
TUES	28th	APRIL	Tom Fowler
TUES	26th	MAY	Wally Brownlow
TUES	23rd	JUNE	Peter Denholm

CLUB PLAY DAY

SUN	15th	MARCH	Bill Holdsworth
SUN	19th	APRIL	Peter Denholm
MON	20th	APRIL	Tom Fowler
SUN	17th	MAY	Jack Davey

PATRON Mr. A.G. Flint, Executive Chairman, STA,
and Commissioner, ANR.

VICE PATRONS Mr. A.W.C. Crossman, Late SAR
Mr. W.D. Saunders, CME, ANR
Mr. C. Schaumlöffel, Manager, Loco Workshops,
Islington
Mr. G. Nicolson, Tregalana, Whyalla
Mr. H.H. Salisbury

PRESIDENT

I. Clark

VICE PRESIDENTS

J. Davey, A. Brabham

SECRETARY

P. Denholm

MINUTE SECRETARY

F. Gordon

TREASURER

B. Holdsworth

ASSISTANT TREASURER

W. Brownlow

COMMITTEE

H. Bateup, A. Ide

P. Waugh, T. Fowler

HOSTS

J. Welch, C. Burden

LIBRARIANS

G. Templeman, M. Ambler

PUBLIC OFFICER

A. Templeman

SUPERVISORS LOCO TRACK

A. Ide, W. Brownlow

H. Bateup, P. Waugh

SUPERVISORS BOAT POND

N. Kernick, C. Manning

B. Gamble

BOILER SAFETY COMMITTEE

A. Brabham, J. Welch

O. Thomas, H. Bateup

CANTEEN

A. Templeman

GROUND LEVEL TRACK

A. Brabham, H. Bateup, A. Ide, I. Clark, R. Bloyd, T. England

J. Davey, W. Brownlow.

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P. Denholm

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CONTRIBUTIONS TO THE BULLETIN SHOULD BE FORWARDED
TO THE EDITOR

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